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Exhibit C-7 -1.

**SUBMISSION OF**

**CITY OF CALGARY**

**TO**

**ROYAL COMMISSION ON ENERGY**

**FEBRUARY 7, 1958**





## BIOGRAPHICAL SKETCH

STANLEY J. DAVIES

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Stanley J. Davies, P. Eng., graduated in 1921 from the Royal School of Mines, Imperial College of Science, London, England, in Technology of Oil.

Worked as geologist and petroleum engineer in Roumania, Trinidad, Mexico, California, from 1921 to 1924.

1925, Petroleum Engineer for Department of Interior at Calgary.

1926 to date, Consulting Petroleum Engineer.

Represented the City of Calgary at hearings and rate cases in 1926, 1931, 1939, 1945, 1949, 1953, and City of Edmonton in 1951.

Appeared for Imperial Oil before the McGillivray Commission, 1938.

Appeared for independent producers on conservation of Natural Gas in Turner Valley, 1931 to 1934.

Member of the Association of Professional Engineers, Engineering Institute of Canada. Honorary member, Alberta Society of Petroleum Geologists. Life member, Canadian Institute of Mining and Metallurgy.





February 1, 1958.

S. J. Helman, Q. C.,  
800 Lancaster Building,  
Calgary, Alberta.

Reference City of Calgary submission to the  
Royal Commission on Energy.

Dear Sir:-

The points upon which the City of Calgary and consumers of gas in Southern Alberta seek assurance are herewith respectfully submitted.

1. All reserves of natural gas now connected to the present Canadian Western Natural Gas Company system should be kept for consumers of gas on that system.
2. All gas fields adjacent to Calgary, or adjacent to the transmission lines of the Canadian Western Natural Gas Company should be dedicated for the future use of Southern Alberta consumers of gas.
3. The pipe lines, treating plants, and other physical assets now used to supply gas to Canadian Western consumers should be used to the fullest possible extent for as long a period of time as the economics of the situation warrant.
4. Consumers of natural gas in Southern Alberta should not be charged with costs relating to the production of sulphur or other products. The present and future status of the market and price of sulphur is not known, and the present market for crude oil is restricted. Both sulphur and crude oil production affect the volume of gas available for use as fuel.
5. The sweet gas reserves of the Province of Alberta are limited. They should in general be reserved for Canadian consumption.
6. The reserves of low acid and low Hydrogen Sulphide gas are likely to be more abundant than those of sweet gas. These reserves should also be reserved for Canadian consumption.
7. Export of natural gas to the United States should be based on gas from high acid gas reserves. The problem of finding a market for the very large production of sulphur from these reserves should be considered before any permit is granted.





8. Present proven reserves of natural gas adjacent to Calgary should not be included in any export permit. Exhaustion of these reserves means that more new reserves must be found a greater distance from Calgary with corresponding higher cost to consumers of gas in Calgary and Southern Alberta.

9. The price of gas to Canadian consumers and specifically to Southern Alberta consumers, should not be higher, than costs of production and a fair return on capital warrant. Export corporations are competing with each other for supplies of gas for export to the United States.

10. Contracts between producers of gas and a foreign export company covering an area of the Province of Alberta from the 5th Meridian to the west boundary of the Province and from the International Boundary north to township 57, together with the location of a 36 inch diameter pipe line with a capacity of 800 million cubic feet per day, would decide for many years the market outlet for a large part of the gas reserves of the Province of Alberta. A permit granted to such a corporation might well place the control of a large part of future discoveries of gas for all time in the hands of a foreign corporation. Such a permit should not be used as a method of creating a monopoly over gas reserves and the sale of gas from a large part of Alberta.


In explanation of the points enumerated the market for natural gas in Canada is a large one. Domestic consumers in Calgary each use 215 thousand cubic feet a year on the average. This is much higher than the amount used per year per domestic consumer in California. The problem however, is that the Canadian consumer uses the gas in large volume in the five cold winter months. Pipe lines, distribution lines, treating plants, and the volume of gas produced by wells must be large enough to satisfy the demands of the consumers on the coldest day in winter. Storage fields, and interruptible consumers help to modify the demand; but it remains a large factor in the natural gas business in Canada.

The load factor in the state of California is more favourable than that of Calgary due to the difference in climatic conditions. Calgary consumers of gas cannot compete for gas supplies with consumers of gas in California because of load factor penalties, due to high consumption in Canada in winter months. Some form of protection for Canadian consumers is absolutely essential.

Sweet gas fields may be produced at a rate which fits the demand for gas in Canada. A large volume of production may be permitted by the Oil and Gas Conservation Board in winter, and production may be restricted in summer. Low acid gas fields must be treated to remove hydrogen sulphide and carbon dioxide. Where the percentages of these impurities are small the production from wells may be permitted by the Oil and Gas Conservation Board to meet the market demand for gas. For this reason these fields are suitable reserves to supply the low load factor Canadian market.

High acid gas fields require high cost treating plants. Methane is frequently less than 50% of the gases passing through the plant. The sulphur production valued at \$20.00 a ton may be several times the value of the by-product gas which may be sold as fuel.





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Gas from plants treating high acid gas is more adapted to the United States market because of the higher load factor. In order to keep costs down these plants must operate at a high average daily rate of capacity, or at a high load factor. Canadian consumers should not be forced to pay higher rates for gas in order to purchase by-product gas from what are in reality sulphur plants. For the same reason Canadian consumers should not be required to pay a high penalty to purchase gas from a pipe line transporting gas to the United States; or in the alternative be required to pay a high price for peak load gas in order to purchase gas from an export pipe line at a high load factor.

An analysis, Table A, of the gas reserves has been prepared covering the Province of Alberta. The data has been taken, in large measure from the 31 January 1957, Report of the Oil and Gas Conservation Board. The additional information provided by the Board is acknowledged with thanks.

Table B, is the same type of analysis applied to the reserves of gas adjacent to the City of Calgary, with two storage fields east of Lethbridge.

A brief has been prepared by the City of Calgary for submission to the Oil and Gas Conservation Board of Alberta for its consideration at a future hearing. This brief is submitted to the Royal Commission on Energy for its information as to the detailed problems facing consumers of gas in the City of Calgary and Southern Alberta. These problems have arisen because of applications for permits to export natural gas to the United States.

Yours truly,

S. J. Davies, P. Eng.

E. M. Bredin, Q. C.  
City Solicitor, City Hall.







PIPELINES  
AND  
PRINCIPAL GAS FIELDS  
IN  
ALBERTA

PRESENT OR APPROVED PIPE LINES —  
PROPOSED PIPE LINES - - -  
PRINCIPAL GAS FIELDS ■  
LIMITS OF MAP PIPELINE MEASUREMENTS ▲

BASED ON MAP OF ALBERTA SHOWING  
GAS STRIKES, BY PETROLEUM AND  
NATURAL GAS CONSERVATION BOARD

FEBRUARY 5, 1958

STANLEY J. DAVIES, P. ENG.





DATA TAKEN FROM 31 JANUARY 1957 REPORT OF OIL AND GAS CONSERVATION BOARD EXCEPT WHERE MARKED \*  
ESTABLISHED RESERVES OF NATURAL GAS IN THE PROVINCE OF ALBERTA TO 31 DECEMBER 1957

COLUMN	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20				
FIELD	GEOLOGICAL AGE AND ZONE	ESTIMATED ORIGINAL RESERVE IN PLACE	DISCOUNT FOR RESERVE LOSS	DISCOUNT FOR SURFACE LOSS	FACTOR TO BE USED TO CORRECT TO SURFACE LOSS	NET AMOUNT PRODUCED TO 1950/55	DISPOSABLE GAS	AVAILABLE SUPPLY FOR ALBERTA UTILITIES	ESTIMATED REQUIREMENT ALBERTA UTILITIES FOR USE AND FOR DELIVERABILITY	BEYOND ECONOMIC REACH	RESERVE COMMITTED TO EXPORT	MARKETABLE GAS AVAILABLE FOR EXPORT	SOLUTION GAS	ASSOCIATED GAS	NOR-ASSOCIATED GAS	SWEET GAS	LOW ACID AND H <sub>2</sub> S CONTENT GAS	HIGH ACID AND H <sub>2</sub> S CONTENT GAS	SULPHUR RESERVE NO. % RECOVERY				
		BCF	%	%		BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	% H <sub>2</sub> S	% CO <sub>2</sub>	BCF	% H <sub>2</sub> S	% CO <sub>2</sub>	LONG TONS
Acbeson	Cretaceous Viking	13.2	20.0	5.0		10.0	10.0	10.0							10.0	10.0							
	Blairmore	72.8	25.0	10.0	1.1	0.4	49.0	49.0							49.0	49.0							
	Devonian																						
	Leduc	85.3	45.0	25.0	1.2	4.8	33.6	33.6					33.6			33.6							
Alexandra	Cretaceous																						
	Basal Blairmore	35.1	10.0	5.0			30.0	30.0							30.0	30.0							
Alhambra	Cretaceous	13.2	20.0	5.0			10.0			10.0				10.0		10.0							
	Cardium																						
Ashmont	Cretaceous																						
	Lower Cr.	13.2	20.0	5.0			10.0	10.0							10.0	10.0							
Athabasca	Cretaceous																						
	Lower	4.9	20.0	5.0		0.7	3.6	3.6							3.6	3.6							
	Devonian																						
	Wabamun	1.8	25.0	5.0		0.3	1.2	1.2							1.2	1.2							
Athabasca East	Cretaceous																						
	Viking	98.2	25.0	5.0			70.0								70.0	70.0							
	Basal																						
	Blairmore	92.0	20.0	5.0			70.0			70.0TC					70.0	70.0							
Beaver Creek	Devonian																						
	Wabamun	26.2	10.0	15.0			20.0			20.0					20.0		23.6	3.5	4.4				31,000
Beaverhill Lake	Cretaceous																						
	Viking	63.1	20.0	5.0			48.0	48.0							48.0	48.0							
	Blairmore	2.5	15.0	5.0			2.0	2.0							2.0	2.0							
Belloy	Cretaceous																						
	Cadotte	4.2	25.0	5.0			3.0					3.0WC			3.0	3.0							
	Notikewin	9.2	20.0	5.0			7.0					7.0WC			7.0	7.0							
	Gething	61.8	15.0	5.0			50.0					50.0WC			50.0	50.0							
	Mississippian	20.8	20.0	10.0																			





DATA TAKEN FROM 31 JANUARY 1957 REPORT OF OIL AND GAS CONSERVATION BOARD EXCEPT WHERE MARKED \*  
ESTABLISHED RESERVES OF NATURAL GAS IN THE PROVINCE OF ALBERTA TO 31 DECEMBER 1957

Prepared for the City of Calgary by S. J. Davies, P. Eng. 28 January 1958

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18			19			20
	GEOLOGICAL AGE AND ZONE	ESTIMATE OF ORIGINAL GAS IN PLACE	DISCOUNT FOR RESERVE LOSS	DISCOUNT FOR SURFACE LOSS	FRACTION CORRECTION TO GROUNDWATER	NET AMOUNT PRODUCED TO DATE	DISMISSABLE GAS	ALBERTA SUPPLY FOR UTILITIES	WATER REQUIREMENT FOR USE AND FOR DELIVERABILITY	BEYOND ELONGING BLACK	RESERVE COMMITTED TO EXPORT	MARKETABLE GAS AVAILABLE FOR EXPORT	SOLUTION GAS	ASSOCIATED GAS	NON-ASSOCIATED GAS	SWEET GAS	LOW ACID AND H <sub>2</sub> S CONTENT GAS	H <sub>2</sub> S AND H <sub>2</sub> S CONTENT GAS	H <sub>2</sub> S AND H <sub>2</sub> S CONTENT GAS	SULPHUR RECOVERY	100 % RECOVERY		
FIELD		BCF	%	%		BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	% H <sub>2</sub> S	% CO <sub>2</sub>	BCF	% H <sub>2</sub> S	% CO <sub>2</sub>	LONG TONS
Birdsall	Cretaceous Viking	210.5	10.0	5.0			180.0					180.0 TC			180.0	180.0							
	Basal Blairmore	24.8	15.0	5.0			20.0					20.0 TC			20.0	20.0							
Bittern Lake	Cretaceous Viking	1.4	25.0	5.0			1.0			1.0					1.0	1.0							
	Blairmore	31.0	15.0	5.0			25.0			25.0					25.0	25.0							
Black Butte	Cretaceous Bow Island	14.0	10.0	5.0			8.0					8.0 MP			8.0	8.0							
	Jurassic Ellis (Ribbon)	3.3	20.0	5.0		2.6	2.0					2.0 MP			2.0	2.0							
	Sawtooth	12.1	20.0	5.0		5.1	8.2					8.2 MP			8.2	8.2							
	Mississippian Rundle	13.8	15.0	15.0			10.0					10.0 MP			10.0	10.0							
Bolton Lake	Cretaceous Viking	4.2	25.0	5.0			3.0			3.0					3.0	3.0							
	Blairmore	11.8	20.0	5.0			9.0			9.0					9.0	9.0							
Bonnie Glen	Devonian Leduc Gas Gap	482.5	10.0	15.0	1.23		369.0					369.0 TC					434.2	0.45				73,700	
	Solution	634.8	35.0	30.0	1.23	24.2	283.0					283.0 TC		283.0	369.0		412.6	0.2	1.1			31,000	
Bonnyville	Cretaceous Colony	4.6	20.0	5.0		0.6	3.4	3.4							3.4	3.4							
Bow Island	Cretaceous Bow Island	21.0	20.0	5.0			16.0	16.0							16.0	16.0							
Boyle-Mustang	Cretaceous Lower Cr.	7.0	25.0	5.0			5.0			5.0					5.0	5.0							
Amisk Lake	Devonian	19.8	20.0	5.0			15.0			15.0					15.0	15.0							
Braeburn	Alaska Cretaceous Cadomina	7.9	20.0	5.0			6.0					6.0 WC			6.0	6.0							
	Triassic	7.9	20.0	5.0			6.0					6.0 WC			6.0	6.0							
	Permian Penn	49.5	15.0	5.0			40.0					40.0 WC			40.0		42.1	1.1	0.9			17,500	
Braeburn West	Cretaceous Paddy	5.9	10.0	5.0			5.0					5.0 WC			5.0	5.0							
	Cadotte	3.7	15.0	5.0			3.0					3.0 WC			3.0	3.0							
	Cadomina	4.7	10.0	5.0			4.0					4.0 WC			4.0	4.0							
	Triassic	13.2	20.0	5.0			10.0					10.0 WC			10.0		10.6	0.1	0.0				
	Jurassic	3.9	15.0	10.0			3.0					3.0 WC			3.0	3.0							
Brooks North East	Cretaceous Bow Island	6.2	15.0	5.0			5.0	5.0							5.0	5.0							
	Sunburst	5.7	10.0	5.0		0.6	4.8	4.8							4.8	4.8							
		1605.2				33.1	1044.4	29.2		58.0	957.2			283.0	369.0	392.4	899.5					122,200	





Table A  
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DATA TAKEN FROM 31 JANUARY 1957 REPORT OF OIL AND GAS CONSERVATION BOARD EXCEPT WHERE MARKED \*  
ESTABLISHED RESERVES OF NATURAL GAS IN THE PROVINCE OF ALBERTA TO 31 DECEMBER 1957

Prepared for the City of Calgary by S. J. Davies, P. Eng. 28 January 1958

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
FIELD	GEOLOGICAL AGE AND ZONE	ESTIMATED ORIGINAL GAS IN PLACE	RECOVERED FOR RESERVOIR LOSS	DISCOUNT LOSS	FACTOR CORRECTION TO RESERVE	NET AMOUNT PRODUCED TO 31 DECEMBER 1957	DISPOSABLE GAS	AVAILABLE SUPPLY FOR ALBERTA UTILITIES	ESTIMATED REQUIREMENT FOR USE AND FOR DEVELOPMENT	STANDARD ECONOMIC REACH	NET GASE COMMITTED TO EXPORT	MARKETABLE GAS AVAILABLE FOR EXPORT	RECOVERED	ASSOCIATED	N.W. ASSOCIATED	SWEET	LOW ACID AND H <sub>2</sub> S CONTENT GAS	HIGH ACID AND H <sub>2</sub> S CONTENT GAS	STANDARD RESERVE TO 100% RECOVERY					
		CCF	%	%		CCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	% H <sub>2</sub>	% H <sub>2</sub> S	% CO <sub>2</sub>	BCF	% H <sub>2</sub>	% H <sub>2</sub> S	% CO <sub>2</sub>	CNO TONS
Brooks-Tilley	Cretaceous Milk River Sun Burst	25.8 12.4	20.0 15.0	3.0 5.0		3.0	19.0 10.0	19.0 10.0							19.0 10.0	19.0 10.0								
Burnt River	Cretaceous Paddy	2.3	10.0	5.0			2.0		2.0						2.0	2.0								
	Mississippian Blue Sky	9.4	10.0	5.0			8.0		8.0						8.0	8.0								
*Calgary	Cretaceous Basal Quartz Mississippian Elkton Devonian Crossfield	20.2 90.0 834.0	15.0 10.0 10	2.0 15.0 59.8			16.8 65.6 302.0	16.8 65.6 302.0							16.8 65.6 302.		17.2	1.99		750.0	34.0	10.1		9,610,000
Campbell-Namas	Cretaceous Basal Blairmore	59.2	15.0	20.0		2.0	40.0	40.0							40.0			Trace						
*Carbon	Cretaceous Glauconitic	256.0	15.0	5.0			206.8	206.8							206.8	206.8								
Castor	Cretaceous Viking Upper	22.3	15.0	5.0			18.0	18.0							18.0	18.0								
	Blairmore	2.3	10.0	5.0			2.0	2.0							2.0	2.0								
Cessford	Cretaceous Viking Basal Colorado Basal	98.8 1020.0	20.0 20.0	5.0 5.0			75.0 775.0			75.0 TC 775.0 TC					75.0 775.0	75.0 775.0								
	Blairmore	272.4	15.0	5.0			220.0		220.0 TC						220.0	220.0								
Chancellor	Cretaceous Viking Basal Colorado Lower Cr. Lower Cr.	5.3 15.8 15.2 19.6	20.0 20.0 10.0 15.0	5.0 5.0 5.0 10.0			4.0 12.0 13.0 15.0		4.0 TC 12.0 TC 13.0 TC						4.0 12.0 13.0 15.0									
Chinook Ridge	Cretaceous Paddy Cadotte Nalikewin	6.9 24.7 24.7	20.0 10.0 10.0	10.0 10.0 10.0			5.0 20.0 20.0		5.0 20.0 20.0						5.0 20.0 20.0									
Clive	Cretaceous Viking Blairmore Devonian Nisku Leduc	3.9 3.7 9.2 4.7	20.0 15.0 10.0 15.0	5.0 5.0 15.0 25.0			3.0 3.0 7.0 3.8		3.0 3.0 7.0 3.8						3.0 3.0 7.0 3.8		3.1	3.8	1.65					
Cold Lake	Cretaceous Blairmore	1.7	25.0	5.0		0.9	1.0	1.0							1.0	1.0								
		2860.5				5.0	1867.0	686.2		71.8	1099.0		13.8		1843.2	14.8.8	14.1			140.0				9,641,700





TABLE A  
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DATA TAKEN FROM 31 JANUARY 1957 REPORT OF OIL AND GAS OBSERVATION BOARD EXCEPT WHERE MARKED \*  
ESTABLISHED RESERVES OF NATURAL GAS IN THE PROVINCE OF ALBERTA TO 31 DECEMBER 1957.  
Prepared for the City of Calgary by S.J. Davies, P. Eng. 28 January 1958.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
FIELD	GEOLOGICAL AGE AND ZONE	ESTIMATED ORIGINAL IN PLACE	DISCOUNT FOR DEPLETION LOSS	DISCOUNT FOR FLARE LOSS	ESTIMATED CORRECTION TO 1000 BCF TO 31 DEC 1957	NET AMOUNT AVAILABLE TO 31 DEC 1957	DISPOSABLE GAS	AVAILABLE SUPPLY FOR ALBERTA UTILITIES	ESTIMATED REQUIREMENT ALBERTA UTILITIES FOR USE AND FOR FLARE	BEYOND ECONOMIC VIABLE	RESERVE COMMITTED TO EXPORT	MARKETABLE GAS AVAILABLE FOR EXPORT	SOLUTION GAS ASSOCIATED	NON-ASSOCIATED GAS	SWEET GAS	LOW ACID AND H <sub>2</sub> S CONTENT GAS	HIGH ACID AND H <sub>2</sub> S CONTENT GAS	SOLUTION RESERVE TO % RECOVERY		
		BCF	%	%		BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	% H <sub>2</sub> S % CO <sub>2</sub>	BCF	% H <sub>2</sub> S % CO <sub>2</sub>	LOW TONS
Jenney	Cretaceous Bow Island	55.7	15.0	5.0			45.0				45.079			45.0	45.0					
Lamonsville	Cretaceous Viking	8.7	15.0	5.0			7.0				7.070			7.0	7.0					
	Basal Blairmore	13.6	15.0	5.0			11.0				11.070			11.0	11.0					
Control	Cretaceous Viking	11.7	10.0	5.0			10.0				10.070			10.0	10.0					
	Basal Blairmore	10.0	15.0	5.0			10.0				10.070			10.0	10.0					
Countess	Cretaceous Bow Island	58.5	10.0	5.0			50.0				50.070			50.0	50.0					
	Basal Blairmore	5.3	20.0	5.0			4.0				4.070			4.0	4.0					
Crossfield	Mississippian Elkton	118.2	10.0	20.0			85.0	85.0					85.0			106.2	1.06	4.13		44,000
Almonville	Cretaceous Gething	31.6	10.0	5.0			27.0			27.0				27.0	27.0					
Donald	Cretaceous Viking	9.9	15.0	5.0			8.0			8.0				8.0	8.0					
	Settling	2.5	15.0	5.0			2.0			2.0				2.0	2.0					
Duchess	Cretaceous Bow Island	13.2	20.0	5.0			10.0				10.070			10.0	10.0					
	Basal Colorado	11.8	20.0	5.0			9.0				9.070			9.0	9.0					
Dumas	Cretaceous Viking	6.2	15.0	5.0			5.0	5.0												
	Blairmore	2.5	15.0	5.0			2.0	2.0												
	Devonian	7.5	30.0	20.0		0.9	4.0					11.0				16.6	1.2	5.4		7,500
Duvernay	Cretaceous Viking	1.5	20.0	5.0		0.7	1.8	1.8						1.8	1.8					
Spurg	Cretaceous Belly River	3.5	10.0	5.0			3.0			3.0				3.0	3.0					
	Viking	5.4	10.0	5.0			8.0			8.0				8.0	8.0					
	Basal Blairmore	3.7	15.0	5.0			3.0			3.0				3.0	3.0					
Eagle Hill	Mississippian Elkton	41.7	10.0	20.0			30.0	30.0					30.0		30.0					
		120.1				1.6	33.8	127.8		31.0	136.0		11.0	125.7	200.8	238.8	1.78			51,500



Table A  
Page 5DATA TAKEN FROM 31 JANUARY 1957 REPORT OF OIL AND GAS CONSERVATION BOARD EXCEPT WHERE MARKED \*  
ESTABLISHED RESERVES OF NATURAL GAS IN THE PROVINCE OF ALBERTA TO 31 DECEMBER 1957

Prepared for the City of Calgary by S. J. Davies, P. Eng. 28 January 1958

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
FIELD	GEOLOGICAL AGE AND ZONE	ESTIMATED ORIGINAL GAS IN PLACE	DISCOUNT FOR DEPRECIATION	DISCOUNT FOR TYPICAL LOSS	NET AMOUNT PRODUCED TO 1950 B.P.	AMOUNT PRODUCED TO 1950 B.P.	DISPOSABLE GAS	AV. RES. SUPPLY FOR ALBERTA UTILITIES	ECONOMIC REQUIREMENT FOR ALBERTA UTILITIES	ECONOMIC REQUIREMENT FOR ALBERTA UTILITIES	DEVELOPABLE GAS	DEVELOPABLE GAS	ASSOCIATED GAS	ASSOCIATED GAS	SWEET GAS	LOW ACID AND H <sub>2</sub> S CONTENT GAS	HIGH ACID AND H <sub>2</sub> S CONTENT GAS	SULPHUR RESERVE 100% RECOVERY				
		BCF	%	%		BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	% H <sub>2</sub> S	% CO <sub>2</sub>	BCF	% H <sub>2</sub> S	% CO <sub>2</sub>	LONG TONS
Eagleshom	Cretaceous																					
	Peace River	1.3	20	5			1.0				1.0WC				1.0	1.0						
	Gething	5.0	15	5			4.0				4.0WC				4.0	4.0						
	Cadomus	4.7	10	5			4.0				4.0WC				4.0	4.0						
	Mississippian	8.2	10	5			7.0				7.0WC				7.0	7.0						
Elk Point	Cretaceous																					
	Blairmore	0.9	25.0	5		0.3	0.6	7.6							0.6	0.6						
Erskine	Cretaceous																					
	Viking	2.8	25.0	5			2.0	4.0							2.0	2.0						
	Blairmore	19.6	15.0	10			15.0	15.0							15.0	15.0						
	Devonian																					
	Leduc	30.6	10.0	20.0			22.0	22.0					22.0						27.5	11.15	5.25	168,000
	Leduc (Solignum)	17.9	35.0	30.0		0.6	8.0	8.0				8.0							11.4	11.15	5.25	
Estakom	Cretaceous																					
	Bow Island	154.8	15.0	5.0			125.0	125.0							125.0	125.0						
	Basal																					
	Blairmore	1.4	25.0	5.0			1.0	1.0							1.0	1.0						
Excelsior	Cretaceous																					
	Viking	9.2	20.0	5.0			7.0	7.0						7.0								
	Basal																					
	Blairmore	31.6	10.0	5.0			27.0	27.0							27.0	27.0						
Eyremore	Cretaceous																					
	Bow Island	22.6	30.0	5.0			15.0	15.0							15.0	15.0						
Fairy Bell	Cretaceous																					
Bon Accord	Viking	119.0	20.0	5.0		1.9	90.0	90.0							90.0	90.0						
	Basal																					
	Blairmore	10.5	20.0	5.0			8.0	8.0							8.0	8.0						
Fenn-Big Valley	Cretaceous																					
	Viking	16.6	15.0	5.0			15.0	15.0							15.0	15.0						
	Devonian																					
	Nisku	170.5	35.0	35.0		8.5	70.0	70.0					70.0						110.8	2.4	11.1	
	Leduc	11.1	30.0	35.0		0.3	5.0	5.0					5.0						7.8	2.2	11.5	102,000
Foremost	Cretaceous																					
	Bow Island	29.1	20.0	5.0		5.8	21.0	21.0							21.0	21.0						
Fr. Saskatchewan	Cretaceous																					
	Viking	141.6	10.0	5.0		11.4	120.0	120.0							120.0	120.0						
Garrington	Devonian																					
	Leduc	30.9	10.0	10.0			25.0			25.0					25.0	25.0						
Gem	Cretaceous																					
	Viking	10.5	20.0	5.0			8.0				8.0TC				8.0	8.0						
	Basal																					
	Colorado	1.4	25.0	5.0			1.0				1.0TC				1.0	1.0						
	Basal																					
	Blairmore	2.0	20.0	5.0			2.0				2.0TC				2.0	2.0						
Ghost Pine	Cretaceous																					
	Blairmore	15.2	10.0	5.0			13.0			13.0					13.0	13.0						
	Mississippian	2.0	15.0	10.0			2.0			2.0					2.0	2.0						
		874.2					28.8	618.6	561.6	47.0	27.0								507.5			270,000











DATA TAKEN FROM 31 JANUARY 1957 REPORT OF OIL AND GAS CONSERVATION BOARD EXCEPT WHERE MARKED \*  
ESTABLISHED RESERVES OF NATURAL GAS IN THE PROVINCE OF ALBERTA TO 31 DECEMBER 1957

Prepared for the City of Calgary by S. J. Davies, P.Eng. 28 January 1958

CO.	WELL		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
FIELD	GEOLOGICAL AGE AND ZONE	ESTIMATED ORIGINAL RESERVE IN PLACE	% DISCOUNT FOR MINOR LOS	% DISCOUNT FOR SURFACE LOSS	FACTORS TO 1000 STD	NET AMOUNT PRODUCED TO DATE	DISPOSABLE GAS	AVAILABLE SUPPLY FOR ALBERTA UTILITIES	ESTIMATED REQUIREMENT ALBERTA UTILITIES FOR USE AND FOR DELIVERABILITY	BEYOND ECONOMIC REACH	RESERVE COMMITTED EXPORT	HARVESTABLE GAS AVAILABLE FOR EXPORT	SOLUTION GAS	ASSOCIATED GAS	NON-ASSOCIATED GAS	SWEET GAS	LOW ACID AND H <sub>2</sub> S CONTENT GAS*	HIGH ACID AND H <sub>2</sub> S CONTENT GAS	LONG TONS					
		Bcf	%	%		Bcf	Bcf	Bcf	Bcf	Bcf	Bcf	Bcf	Bcf	Bcf	Bcf	Bcf	Bcf	% H <sub>2</sub> S % CO <sub>2</sub>	Bcf	% H <sub>2</sub> S % CO <sub>2</sub>	Long Tons			
Hercules	Cretaceous Viking basal Blairmore	11.2 11.7	15.0 10.0	5.0 5.0			9.0 10.0	9.0 10.0							9.0 10.0	9.0 10.0								
Romagan - Ribsey	Devonian Leduc	1113.0	10.0	20.0		4.2	800.0				800.0 TC													805000
Euskar	Leduc Cretaceous basal Colorado Glauconitic Sand	103.8 105.4	35.0 10.0	25.0 5.0		2.0	50.0 90.0	15.0 90.0			50.0 TC 90.0 TC		50.0		800.0		1001.7 66.5	1.8 3.1	0.75 1.86					
Joarcom	Cretaceous Viking	65.8	20.0	5.0			50.0	50.0							50.0									
Jumping Pound	Mississippian Rundle	728.3	10.0	17.0		59.2	538.0	538.0									655.5	3.4	6.3					840000
Kessler	Cretaceous Viking	70.2	25.0	5.0			50.0				50.0 TC													
Kevisville	Devonian Leduc	27.8	10.0	60.0			10.0	10.0											25.0	5.6	2.7			52800
LacLaBiche	Cretaceous Viking McMuray	45.1 14.0	30.0 25.0	5.0 5.0			30.0 10.0			30.0 10.0							30.0 10.0							
Lea Hurst	Cretaceous Blairmore	9.6	15.0	5.0		0.3	7.7	7.7																
Leduc-Woodhead	Cretaceous Viking Blairmore	16.0 224.4	20.0 25.0	5.0 10.0		0.6 1.8	12.0 151.0	12.0 137.0		14.0														
	Devonian Nisku Gas Cap Nisku Solution Leduc Gas Bed Leduc Solution	42.5 120.9 488.2 169.6	10.0 25.0 15.0 40.0	15.0 30.0 15.0 30.0			32.5 58.0 348.0 56.8	32.5 58.0 348.0 56.8					58.0 56.8		32.5 348.0		168.0 38.8 40.7	1.0 4.9 4.9	2.6 1.2 1.2					
Lindbergh	Cretaceous Viking Colony	2.8 2.7	25.0 24.0	5.0 5.0			2.0 1.5	2.0 1.5									2.0 1.5							
Little Smoky River	Permo-Penn Mississippian Devonian Leduc	2.5 2.8 22.1	15.0 15.0 35.0	5.0 5.0 30.0			2.0 2.0 10.8	2.0 2.0 10.8		2.0 2.0 10.8				10.8					14.4	12.1	2.4			6730
		3629.4				386.0	538.0	1202.0		64.0	1014.0		177.8	1230.4	800.0		2405.0							



TABLE A

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DATA TAKEN FROM 31 JANUARY 1957 REPORT OF OIL AND GAS CONSERVATION BOARD EXCEPT WHERE MARKED \*  
ESTABLISHED RESERVES OF NATURAL GAS IN THE PROVINCE OF ALBERTA TO 31 DECEMBER 1953

Prepared for the City of Calgary by S. J. Davies, P.Eng. 28 January 1958.

Prepared for the City of Calgary by S. J. Davies, P.Eng. 28 January 1996.																					
COL. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
F.I.C.C.	GEOLOGICAL AGE AND ZONE	ESTIMATED ORIGINAL GAS IN PLACE	DISCOUNT FOR RESERVE LOSS	DISCOUNT FOR SURFACE LOSS	ADJUSTED CORRECTION TO (1000 BTU)	NET AMOUNT AVAILABLE TO PRODUCTION	DISPOSABLE GAS	AVAILABLE SUPPLY FOR ALBERTA UTILITIES	ESTIMATED REQUIREMENT FOR ALBERTA UTILITIES FOR USE AND FOR DELIVERABILITY	BEYOND ECONOMIC REACH	RESERVE COMMITTED TO EXPORT	MARKETABLE GAS AVAILABLE FOR EXPORT	SOLUTION GAS	ASSOCIATED GAS	NON-ASSOCIATED GAS	SWEET GAS	LOW A.C.G. AND H <sub>2</sub> S CONTENT GAS	HIGH A.C.G. AND H <sub>2</sub> S CONTENT GAS	SUMMARY RESERVE 25% RECOVERY		
		B.F.	%	%		BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	% H <sub>2</sub> S % CO <sub>2</sub>	BCF % H <sub>2</sub> S % CO <sub>2</sub>	LONG TONS		
Lloydminster	Cretaceous Colony	7.9	40.0	15.0		10.3	4.0	4.0							4.0	4.0					
Major Lake	Sperry Cretaceous	8.7	60.0	40.0			2.1	2.1							2.1	2.1					
	Claumontic	2.6	20.0	5.0			2.0			2.0					2.0	2.0					
	Mississippian Rundle	12.3	10.0	10.0			10.0			10.0					10.0	10.0					
Malmo	Cretaceous Viking	3.7	15.0	5.0			3.0	3.0							3.0	3.0					
	Basel Blairmore	3.9	15.0	10.0			3.0	3.0						3.0			3.4	3.7	1.3		
	Gas Cap	3.9	40.0	10.0		0.3	2.0	2.0													
	Same solution												2.0								
	Devonian																	2.3	10.3	2.95	
	Nisku Gas Cap	3.7	10.0	10.0			3.0	3.0						3.0				3.3	10.3	3.2	
	Nisku Solution	6.6	35.0	25.0		0.9	3.0	3.0										4.4	10.3	3.2	
	Leduc Gas Cap	1.2	10.0	10.0			1.0	1.0					3.0								
	Leduc solution	4.1	35.0	20.0		0.4	2.0	2.0					2.0	1.0			1.1	3.9	1.7		
																	3.7	3.9	1.7		
Manyberries	Cretaceous Upper Bow Island	7.9	20.0	5.0			6.0			6.0MP					6.0	6.0					
	Lower Bow Island	73.0	15.0	5.0			59.0			59.0MP					59.0	59.0					
Medicine Hat	Cretaceous Medicine Hat	1391.0	20.0	7.0		189.8	1000.0	1000.0							1000.0	1000.0					
	Bow Island	19.7	20.0	5.0			15.0	15.0						15.0		15.0					
	Jurassic Hills	19.7	20.0	5.0			15.0	15.0						15.0		15.0					
Mimihik-Buck Lake	Mississippian	61.7	10.0	10.0			50.0						50.0		50.0		55.5	1.8	3.2		
Notwinville	Cretaceous Viking	2.8	25.0	5.0			2.0	2.0							2.0	2.0					
	Basel Blairmore	125.9	15.0	5.0		12.6	100.0	100.0							100.0		107.1	0.1	2.6		
Mountain Park	Triassic Spray River	29.2	10.0	5.0			25.0			25.0					25.0	25.0					
Navis	Cretaceous Lower Devonian	39.5	20.0	5.0			30.0	30.0							30.0		31.5	Trace			
	D2 & D3	666.7	10.0	20.0			480.0			480.0TC					480.0			600.0	6.2	1.4	1,400,000
New Norway	Cretaceous Viking	2.6	20.0	5.0			2.0	2.0							2.0						
	Blairmore	5.9	10.0	5.0			5.0	5.0							5.0		5.3	0.8	3.0		
	Devonian																				
	Nisku	6.4	15.0	25.0		0.5	3.0	3.0					3.0				5.7	1.4	1.0		
		2120.6				214.8	1427.1	1194.1	37.0	545.0	40.0	10.0	94.0	1723.1	1324.1	213.1					





Table A  
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DATA TAKEN FROM 31 JANUARY 1957 REPORT OF OIL AND GAS CONSERVATION BOARD EXCEPT WHERE MARKED \*  
ESTABLISHED RESERVES OF NATURAL GAS IN THE PROVINCE OF ALBERTA TO 31 DECEMBER 1957

Prepared for the City of Calgary by S. J. Davies, P. Eng. 28 January 1958

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
FIELD	SECTION, AREA AND ZONE	ESTIMATED ORIGINAL GAS IN PLACE	DISCOUNT FOR RESERVOIR LOSS	DISCOUNT FOR SURFACE LOSS	FACTOR FOR REDUCTION TO DEEPER	NET AMOUNT PRODUCED TO DECEMBER 31, 1957	DISPOSABLE GAS	AVAILABLE SUPPLY FOR ALBERTA UTILITIES	ESTIMATED REQUIREMENT ALBERTA UTILITIES FOR USE AND FOR ECONOMY	BEYOND ECONOMIC REACH	EXCESS COMMITTED TO EXPORT	UNRECOVERABLE GAS AVAILABLE FOR EXPORT	SOLUTION ASSOCIATED GAS	NON-ASSOCIATED GAS	SWEET GAS	LOW ACID AND H <sub>2</sub> S CONTENT GAS	HIGH ACID AND H <sub>2</sub> S CONTENT GAS	SULPHUR RESERVE IN % RECOVERY			
		BCF	%	%		BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	% H <sub>2</sub> S	% CO <sub>2</sub>	LONG TONS		
Normandville	Cretaceous																				
	Gething	14.9	15.0	5.0			12.0			12.0					12.0	12.0					
	Triassic	6.2	15.0	5.0			5.0			5.0					5.0	5.0					
	Permo-Penn	3.5	10.0	5.0			3.0			3.0					3.0	3.0					
	Rundle	6.2	10.0	10.0			5.0			5.0					5.0	5.0					
Obed	Mississippian																				
Oberlin	Rundle	12.4	10.0	10.0			10.0			10.0						11.2	0.2	3.9			
	Cretaceous																				
	Viking	0.6	25.0	5.0			0.4	0.4							0.4	0.4					
	Blairmore	1.1	20.0	5.0		0.7	0.7	0.7							0.7	0.7					
*Okotoks	Devonian																				
	Crossfield	375.0	10.0	60.0			135.0	135.0													
Olds	Devonian																				
	Crossfield	97.2	10.0	20.0			70.0	70.0													
Oyen	Cretaceous																				
	Viking	10.5	20.0	5.0			8.0		8.0						8.0	8.0					
Parkland	Mississippian																				
	Rundle	19.6	10.0	15.0			15.0			15.0						17.6	1.8	7.8			
*Pembina	Cretaceous																				
	Belly River	1.3	20.0	5.0			1.0	1.0							1.0	1.0					
	Cardium (Sol)	2061.3	42.0	41.0		18.7	302.0	302.0				302.0			302.0						
	Basal																				
	Blairmore	1.4	25.0	5.0			1.0	1.0							1.0	1.0					
	Mississippian																				
	Rundle	3.9	15.0	10.0			3.0	3.0							3.0		3.4	3.0	3.0		
Pend D'Oreille	Cretaceous																				
	Box Island	199.7	20.0	5.0		34.4	145.0			145.0 MP					145.0	145.0					
Phil Can	Cretaceous																				
	Gething	11.8	20.0	5.0			9.0		9.0						9.0	9.0					
	Mississippian	5.0	15.0	5.0			4.0		4.0						4.0	4.0					
Pigeon Lake	Devonian																				
	Leduc	13.1	10.0	15.0			10.0	10.0													
Pincher Creek	Mississippian																				
	Rundle	2858.0	16.0	25.0			1800.0			1800.0 TC					1800.0			2400.7	8.5	6.6	7,690,000
Pine Creek	Devonian																				
	Leduc	560.0	15.0	50.0			238.0			238.0					238.0						
Pouce Coupe	Cretaceous																				
	Cadotte	248.1	15.0	5.0		2.9	200.0			200.0 WC					200.0	200.0					
	Cadomin	12.4	15.0	5.0			10.0			10.0 WC					10.0	10.0					
Pouce Coupe South	Cretaceous																				
	Doe Creek	13.0	35.0	5.0			8.0		8.0 WC						8.0	8.0					
	Cadotte	101.8	10.0	5.0			87.0		87.0 WC						87.0	87.0					
	Cadomin	11.7	10.0	5.0			10.0		10.0 WC						10.0	10.0					
	Triassic																				
	Scholler Creek	12.4	15.0	5.0			10.0			10.0											
		6662.1					56.7	3102.1	523.1	71.0	2270.0	238.0	302.0		2800.1	821.1	131.5		3214.2		15,350,000





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ESTABLISHED RESERVES OF NATURAL GAS IN THE PROVINCE OF ALBERTA TO 31 DECEMBER 1957

Prepared for the City of Calgary by S. J. Davies, P. Eng. 28 January 1958

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	12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DATA TAKEN FROM 31 JANUARY 1957 REPORT OF OIL AND GAS CONSERVATION BOARD EXCEPT WHERE MARKED \*  
ESTABLISHED RESERVES OF NATURAL GAS IN THE PROVINCE OF ALBERTA TO 31 DECEMBER 1957

Prepared for the City of Calgary by S. J. Davies, P. Eng. 28 January 1958

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20				
FIELD	GEOLOGICAL AGE AND ZONE	ESTIMATED ORIGINAL GAS IN PLACE	DISCOUNT FOR RESERVE LOSS	DISCOUNT FOR SURFACE LOSS	FACTOR CORRECTION TO 1000 B/FU	NET AMOUNT PRODUCED TO 10 DEC 1957	DISPOSABLE GAS	AVAILABLE SUPPLY FOR ALBERTA UTILITIES	ESTIMATED REQUIREMENT ALBERTA UTILITIES FOR USE AND FOR DELIVERABILITY	BEYOND ECONOMIC REALITY	RESERVE COMMITTED TO EXPORT	MARKETABLE GAS AVAILABLE FOR EXPORT	SOLUTION GAS	ASSOCIATED GAS	NON-ASSOCIATED GAS	SWEET GAS	LOW ACID AND H <sub>2</sub> S CONTENT GAS	HIGH ACID AND H <sub>2</sub> S CONTENT GAS	STILL-PHASE RECOVERY TO %				
		BCF	%	%		BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	% H <sub>2</sub> S	% CO <sub>2</sub>	BCF	% H <sub>2</sub> S	% CO <sub>2</sub>	LONG TONS
Turin	Cretaceous																						
	Bow Island	5.0	15.0	5.0			4.0			4.0						4.0	4.0						
	Blairmore	21.2	10.0	5.0			18.0			18.0						18.0	18.0						
	Ellis	5.0	15.0	5.0			4.0			4.0						4.0	4.0						
Turner Valley	Mississippian																						
	Rundle	2.9	15.0	20.0			2.0			2.0						2.0	2.0						
	Solution	205.0		20.0			205.0	205.0							205.0		239.0	2.0	1.4				345,000
Viking Kinsella	Cretaceous																						
	Viking	802.2	20.0	5.0		265.8	559.0	559.0								559.0	559.0						
	Blairmore	19.8	15.0	5.0			16.0	16.0								16.0	16.0						
Warburg	Devonian	5.3	20.0	5.0			4.0	4.0								4.0	4.0	4.3	0.3	1.0			
	Cretaceous																						
	Belly River	3.5	10.0	5.0			3.0			3.0						3.0	3.0						
Wayne	Viking	10.5	10.0	5.0			9.0			9.0						9.0	9.0						
	Cretaceous																						
	Viking	13.2	20.0	5.0			10.0				10.0 TC					10.0	10.0						
West Drum-beller	Basal Blairmore Assoc.	13.6	10.0	10.0			11.0				11.0 TC				11.0		11.0						
	Cretaceous																						
	Basal																						
	Blairmore	3.5	10.0	5.0			3.0	3.0							3.0		3.0						
Westerose	Devonian																						
	Nisku Gas																						
	Cap	9.2	10.0	15.0			7.0	7.0							7.0		8.3	2.1	9.9				
	Nisku Sol.	28.3	45.0	25.0		1.9	11.0	11.0					11.0				15.6	2.1	9.9				
Westlock	Leduc Sol.	2.2	40.0	25.0			1.0	1.0					1.0				1.3	0.7	14.4				
	Devonian																						
	Leduc Gas																						
	Cap	125.0	10.0	20.0			90.0				90.0 TC		90.0				112.0	0.4	1.1				
Westerose	Leduc Sol.	115.5	30.0	25.0		3.0	60.0				60.0 TC		60.0				80.9	1.8	1.0				
	Devonian																						
Westlock	Leduc	588.0	10.0	15.0			450.0				450.0 TC				450.0		529.2	1.4	1.7				279,000
	Cretaceous																						
West Prairie	Viking	263.5	20.0	5.0		0.7	200.0	200.0								200.0	200.0						
	Blairmore	2.6	20.0	5.0			2.0	2.0								2.0	2.0						
	Cretaceous																						
West Prairie	Cadotte	17.5	20.0	5.0			15.0			15.0						15.0	15.0						
	Gething	5.8	10.0	5.0			5.0			5.0						5.0	5.0						
Westward Ho	Mississippian																						
	New																						
	Elkton Assoc.	39.2	10.0	15.0			30.0	30.0								30.0	30.0						
Whitelaw	Elkton Sol.	26.8	35.0	25.0		0.3	13.0	13.0							13.0								
	Cretaceous																						
	Gething	74.3	15.0	5.0		0.8	60.0	60.0								60.0	60.0						
Whitelaw	Triassic																						
	Spray River	61.9	15.0	5.0			50.0	50.0								50.0	50.0						
		2620.5				272.5	1992.0	1311.0		60.0	621.0		325.0	226.0	1441.0								



TABLE A

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DATA TAKEN FROM 31 JANUARY 1957 REPORT OF OIL AND GAS CONSERVATION BOARD EXCEPT WHERE MARKED \*  
ESTABLISHED RESERVES OF NATURAL GAS IN THE PROVINCE OF ALBERTA TO 31 DECEMBER 1957.

Prepared for the City of Calgary by S.J. Davies, P. Eng. 28 January, 1958.

COLUMN	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18			19			20
FIELD	GEOLOGICAL AGE AND ZONE	ESTIMATED ORIGINAL GAS IN PLACE	DISCOUNT FOR RESERVE LOSS	%	SECTION CORRECTION TO 1950 STD	NET AMOUNT PRODUCED TO DEC 1957	DISPOSABLE GAS	AVAILABLE SUPPLY FOR ALBERTA UTILITIES	ESTIMATED REQUIREMENT ALBERTA UTILITIES FOR USE AND FOR DELIVERABILITY	BEYOND ECONOMIC REACH	RESERVE COMMITTED TO EXPORT	MARKETABLE GAS AVAILABLE FOR EXPORT	SOLUTION GAS	ASSOCIATED GAS	NON ASSOCIATED GAS	SWEET GAS	LOW ACID AND H <sub>2</sub> S CONTENT GAS	HIGH ACID AND H <sub>2</sub> S CONTENT GAS	% H <sub>2</sub> S	% CO <sub>2</sub>	SULPHUR RESERVE 100% RECOVERY		
		BCF	%	%		BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	% H <sub>2</sub> S	% CO <sub>2</sub>	BCF	% H <sub>2</sub> S	% CO <sub>2</sub>	LONG TONS
Wildmere	Lower Cretaceous	7.4	20.0	5.0		6.1	4.5	4.5							4.5	4.5							
Wildon Creek	Cretaceous Viking	19.7	20.0	5.0			15.0			15.0					15.0	15.0							
Winbourne	Cretaceous Viking	1.4	25.0	5.0			1.0					1.0			1.0	1.0							
	Devonian	2.9	20.0	10.0			2.0					2.0			2.0			2.7	16.9	1.6			
	Rising Gas Cap. Leduc Gas Cap.	120.5	10.0	40.0			65.0					65.0			65.0			136.0	30.0	3.0		1,382,000	
Windfall	Cretaceous Viking	7.4	25.0	10.0			5.0					5.0			5.0	5.0							
	Mississippian Rundle	1.5	25.0	10.0			1.0					1.0			1.0	1.0							
	Devonian Leduc Non-Assoc.	1025.0	10.0	35.0			600.0					600.0			600.0			922.5	14.8	5.3		5,150,000	
Wisdard Lake	Cretaceous Viking	2.5	15.0	5.0			2.0	2.0							2.0	2.0							
	Ir. Cretaceous	9.5	15.0	5.0			8.0	8.0							8.0		8.4	0.3	3.0				
	Devonian Leduc Solution	240.0	40.0	30.0	1.23	8.6	98.5	98.5					98.5		98.5								
Wood River	Cretaceous Basal Blairmore	17.5	10.0	5.0			15.0	15.0							15.0	15.0							
Waterton	Mississippian Rundle	2589.6	25.0	50.0			971.1					971.1			971.1			1942.2	31.0	7.0		25,700,000	
Castle River																							
Other Reserves Less than 10 1958		177					197.0	197.0							197.0	197.0							
Ditto Not Within Economic Reach		20					420.0					420.0			420.0	420.0							
		666.1				1.27	2105.1	3274.0		435.0		1545.1	8.5	67.0	2200.0	761.0	5.1			2055.1			28,212,000





TABLE A

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DATA TAKEN FROM 31 JANUARY 1957 REPORT OF OIL AND GAS CONSERVATION BOARD EXCEPT WHERE MARKED +  
ESTABLISHED RESERVES OF NATURAL GAS IN THE PROVINCE OF ALBERTA TO 31 DECEMBER 1957

Prepared for the City of Calgary - by S. J. Davies, P. Eng., 28 January, 1958.

COLUMN	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20							
FIELD	GEOLOGICAL AGE AND ZONE	ESTIMATED ORIGINAL GAS IN PLACE	DISCOUNT FOR RESERVE LOSS	DISCOUNT FOR SURFACE LOSS	FACTOR CORRECTION TO 100% GAS	NET RESERVE (100% GAS)	DISPOSABLE GAS	ADDITIONAL GAS FOR UTILITIES	RESERVE (100% GAS) FOR USE	RESERVE COMMITTED	MAINTAINABLE RESERVE	SOLUTION GAS	ASSOCIATED GAS	NON-ASSOCIATED GAS	SWEET GAS	LOW ACID AND H <sub>2</sub> S CONTENT GAS	HIGH ACID AND H <sub>2</sub> S CONTENT GAS	SULPHUR RESERVE FOR RECOVERY								
		BCF	%	%		BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	% H <sub>2</sub> S	% CO <sub>2</sub>	BCF	% H <sub>2</sub> S	% CO <sub>2</sub>	BCF	% H <sub>2</sub> S	% CO <sub>2</sub>	BCF	% H <sub>2</sub> S	% CO <sub>2</sub>
Base 1.		687.1				672.4	474.4	187.0		79.1	693.5		47.5		430.8	43.1	65.7									21,700
2.		1,799.2				73.1	106.4	23.2			600.2		283.7	349.0	332.4	3.2	896.5									144,200
3.		2860.7				5.9	1867.0	109.2		71.8	1868.0		13.8		1853.2	129.8	149.1		780.0							6,000,000
4.		429.1				1.4	334.7	137.3		51.0	156.5		11.0	115.0	268.8	238.8	122.8									60,000
5.		474.2				24.8	619.4	61.6		40.0	27.0		83.0	29.0	506.6	513.6			16.5							200,000
6.		2385.3				9.0	1693.3	140.3		89.0	176.0		174.0	970.0	549.3	515.3	1470.7		5.6							444,000
7.		3423.4				135.0	2346.3	1272.5		68.8	1005.0		175.6	1230.5	940.2	666.0	2020.6		39.4							1,704,500
8.		2510.6				214.8	1827.1	1195.1		37.0	545.0	50.0	10.0	94.0	1723.1	1145.1	213.3		610.0							1,400,000
9.		6662.1				56.7	3102.1	523.1		71.0	2270.0	238.0	302.0		2800.1	821.1	131.5		3214.2							18,350,000
10.		1346.0				41.6	929.7	146.7		80.0	703.0		62.5	33.0	834.2	867.2	137.1									145,000
11.		2550.3				6.3	1721.0	468.0		286.0	177.0	790.0	176.0	27.0	1518.0	396.0	503.9		1188.2							8,622,000
12.		2620.5				272.5	1992.0	1311.0		60.0	621.0		325.0	226.0	1441.0	1001.0	1222.6									624,000
13.		4662.3				14.7	2405.1	325.0		435.0		1645.1	98.5	67.0	2239.6	759.0	8.4		2975.4							29,232,000
		32594.6				876.2	20355.8	6270.0	13549.0	1219.6	7945.2	2723.1	1758.0	3160.5	15437.3	9138.7	6945.2		8096.7							68,300,000
<p>Notes: All requirements at 14.4 psia and 60°F. BCF means Billions cubic feet. L.C. means Lower Calorific Value. The area is the same as the area of the 1956-1957 Used Reserve for deliverability 1000 C. Edmonton-Sadd Deer Area 1956-1957 Used Reserve for deliverability 1000 C. Other areas of Province Total required 111,000,000</p>																										

2 x  
8



ESTABLISHED RESERVES OF NATURAL GAS FOR THE LETHBRIDGE - CALGARY - BANFF AREA AT 31 DECEMBER 1957

Column 10 indicates that the quantity of gas required for use during the period 1958 - 1987 is 2326 BCF plus the reserve required to deliver the gas estimated at 3000 BCF.

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ESTABLISHED RESERVES OF NATURAL GAS FOR THE LETHBRIDGE - CALGARY - BANFF AREA AT 31 DECEMBER 1957

Prepared for the City of Calgary by S. J. Davies, P. Eng. 29 January 1958

COLUMN 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18			19			20
FIELD	GEOLOGICAL AGE AND ZONE	ESTIMATED ORIGINAL GAS IN PLACE	DISCOUNT FOR PRESENT LOSS	DISCOUNT FOR SURFACE LOSS	FACTORS CORRECTED TO 1000 BTD	NET AMOUNT PRODUCED TO DEC1987	DISPOSABLE GAS	AVAILABLE SUPPLY FOR ALBERTA UTILITIES	ESTIMATED REQUIREMENT ALBERTA UTILITIES FOR USE AND FOR DELIVERABILITY	BEYOND ECONOMIC REACH	RESERVE COMMITTED TO EXPORT	ADMITTABLE GAS AVAILABLE FOR EXPORT	SOLUTION GAS	ASSOCIATED GAS	NDR ASSOCIATED GAS	SWEET GAS	LOW ACID AND H <sub>2</sub> S CONTENT GAS <sup>1</sup>			HIGH ACID AND H <sub>2</sub> S CONTENT GAS			SULPHUR RESERVE 100 % RECOVERY
		BCF	%	%		BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	BCF	% H <sub>2</sub> S	% CO <sub>2</sub>	BCF	% H <sub>2</sub> S	% CO <sub>2</sub>	LONG TONS
Bow Island	Cretaceous																						
	Bow Island	21.0	20.0	5.0			16.0	16.0							16.0	16.0							
Foremost	Cretaceous																						
	Bow Island	29.1	20.0	5.0		5.8	21.0	21.0							21.0	21.0							
Calgary	Cretaceous																						
	Basal Quartz	20.2	15.0	2.0			16.8	16.8							16.8		17.2	3.99					
	Mississippian	90.0	15.0	14.0			65.6	65.6							65.6		76.5	1.1	5.6				31,700
	Elkton																						
	Devonian																						
	Crossfield	834.0	10.0	59.8			302.0	302.0							302.0					750.0	34.0	10.1	9,610,000
Carbon	Cretaceous																						
	Glauconitic Sand	256.0	15.0	5.0			206.8	206.8							206.8	206.8							
Jumping Pound	Mississippian																						
	Rundle	692.0	10.0	17.0			517.0	517.0							517.0		623.0	3.4	6.1				800,000
Okotoks	Devonian																						
	Crossfield	430.0	10.0	60.0			155.0	155.0							155.0					387.0	33.0	12.6	4,820,000
Sarcee	Mississippian																						
	Rundle	500.0	15.0	20.0			342.0	342.0							342.0		425.0	3.7	5.1				593,000
Sundre	Mississippian																						
Harmattan																							
Westward Ho	Elkton	1694.	10.0	20.0			1220.0	1220.0						1220.0			1525.6	0.6	5.0				345,000
Crossfield																							
Turner Valley	Mississippian																						
	Rundle Gas						191.0	191.0							191.0		239.0	2.0	1.7				
	Cap Solution						136.0	136.0	5326.0				136.0				219.0						345,000
	Solution		20.0	38.0																			
		4566.3				5.8	3189.2	3189.2	5326.0				136.0	1411.0	1642.2	243.8	3125.3			1137.0			16,544,700
										Column 10 indicates that the quantity of gas 1958 - 1987 is 2326 BCF plus the estimated at 3000 BCF.				required for use during the period reserve required to deliver the gas									







